

## In the Claims

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1. (currently amended) A method for background replacement in image capture systems, the method comprising:
    - recording a background of an image with no foreground object with an image capture device, wherein the background is used as an input to a probability function;
    - using said image capture device to capture an input image having a foreground object;
    - classifying each pixel in said input image as a foreground pixel or a background pixel by applying a the probability function to the input image resulting in a classification;
    - refining said classification to ensure proper classification;
    - replacing said background pixels with pixels from a different background, wherein said replacing is performed with feathering; and
    - producing an output image comprised of said foreground pixels and said pixels from a different background.
  2. (original) The method as claimed in claim 1 where the refining step is performed in the normalized RGB chromatic color space.
  3. (original) The method as claimed in claim 1 wherein the refining step is performed in YCbCr color space.
  4. (original) The method as claimed in claim 1 wherein said input image comprises one frame of video data.
  5. (original) The method as claimed in claim 1 wherein said input image comprises more than one frame of video data.
  6. (original) The method as claimed in claim 1 wherein said input image comprises a still image.
  7. (original) The method as claimed in claim 1, wherein said refining step is performed with anisotropic diffusion.
  8. (original) The method as claimed in claim 1, wherein said refining step is performed with morphological filtering.
  9. (original) The method as claimed in claim 1, wherein said output image is a video image.
  10. (original) The method as claimed in claim 1, wherein said output image is a still image.